

The embodiments of the invention in which an exclusive property or privilege I claim are as follows:

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1. A vehicle rearview mirror system comprising:
a rearview mirror case having a reflective element, said mirror case being adapted to mount to a portion of a vehicle and including a carrier;
said carrier located at a viewing location at said mirror case; and
at least one user-actuable interface device positioned at said carrier whereby at least one of a driver and an occupant of the vehicle can interface with said user-actuable interface device.

2. The vehicle rearview mirror system according to Claim 1, wherein said carrier is mechanically connected to said mirror case.

3. The vehicle rearview mirror system according to Claim 2, wherein said carrier is mechanically connected to said mirror case by a plurality of tabs, said tabs engaging said case.

4. The vehicle rearview mirror system according to Claim 2, wherein said carrier is mechanically connected to said mirror case by a snap-fit connection.

5. The vehicle rearview mirror system according to Claim 2, wherein said carrier is releasably mechanically connected to said mirror case.

6. The vehicle rearview mirror system according to Claim 2, wherein said case includes a retaining rim, said carrier being mechanically connected to said mirror case at said retaining rim.

7. The vehicle rearview mirror system according to Claim 5, wherein said carrier is mechanically connected to at least said retaining rim.

8. The vehicle rearview mirror system according to Claim 2, wherein said mirror case includes one of a chin area below said reflective element and an eyebrow area above said reflective element, said carrier being mechanically connected to said case at one of said chin area and said eyebrow area.

9. The vehicle rearview mirror system according to Claim 8, wherein said carrier is mechanically connected at said chin area.

10. The vehicle rearview mirror system according to Claim 1, further comprising a display element having at least one display character emitting a pattern of light to form a display image, said carrier providing a display screen, said display element disposed behind said display screen, and said display screen displaying said at least one display image at said viewing location for viewing by at least one of a driver and an occupant of the vehicle.

5 sub 2 11. The vehicle rearview mirror system according to Claim 10, said display screen having a central viewing area generally aligned along a viewing axis, said display image on said display element being offset from said viewing axis, and said display screen shifting said display image on the display element to said central viewing area of said display screen.

12. The vehicle rearview mirror system according to Claim 11, wherein said display element is mounted on a circuit board, said circuit board being supported in said case.

13. The vehicle rearview mirror system according to Claim 11, wherein said display screen shifts said display image by at least one of refraction and diffraction.

14. The vehicle rearview mirror system according to Claim 11, wherein said display screen includes an outer surface and an inner surface, said inner surface angled with respect to said outer surface whereby said image is shifted by refraction.

15. The vehicle rearview mirror system according to Claim 14, wherein said display screen comprises a material having an index of refraction in a range of about 1.3 to 1.8.

16. The vehicle rearview mirror system according to Claim 15, wherein said material has an index of refraction in a range of about 1.4 to 1.7.

17. The vehicle rearview mirror system according to Claim 11, wherein said display screen is adapted to shift the image by diffraction.

18. The vehicle rearview mirror system according to Claim 1, wherein said user actuatable interface device comprises a user actuatable button for actuating a vehicle function.

19. The vehicle rearview mirror system according to Claim 18, further comprising a light source, said light source illuminating said user-actuatable button.

20. The vehicle rearview mirror system according to Claim 1, wherein said rearview mirror case comprises an interior rearview mirror case.

21. The vehicle rearview mirror system according to Claim 1, further comprising a toggle assembly, said reflective element comprising a prismatic reflective element and being pivotable between day and night reflective positions by said toggle assembly.

22. The vehicle rearview mirror system according to Claim 21, wherein said toggle assembly includes a grasping member, said grasping member including a base and an outer surface, said base comprising a first material, at least a portion of said outer surface comprising a second material having a lower hardness than said first material whereby said grasping member comprises a soft touch grasping member.

23. The vehicle rearview mirror system according to Claim 22, wherein said second material has a material hardness of less than approximately 70 Shore A Durometer.

24. The vehicle rearview mirror system according to Claim 22, wherein said outer surface is formed from said second material.

25. The vehicle rearview mirror system according to Claim 22, wherein said first material has a material hardness greater than approximately 70 Shore A Durometer.

26. The vehicle rearview mirror system according to Claim 1, further comprising at least one light assembly projecting light through a lower portion of said mirror case.

27. The vehicle rearview mirror system according to Claim 1, further comprising a pair of light assemblies projecting light through a lower portion of said mirror case, said lower portion of said mirror case including a pair of openings, each of said light assemblies including a light source, a reflector element, and a cover, said reflector elements directing light from said light sources through said cover, and said covers of each of said light assemblies having substantially the same configuration and being positionable in said openings of said mirror case and being positioned in said openings in substantially the same orientation whereby said covers are interchangeable with one another.

28. A vehicle interior rearview mirror system comprising:
a rearview mirror case having a reflective element, said mirror case being adapted to mount to an interior portion of a vehicle;
a light emitting display element for displaying at least one display character emitting a pattern of light to form an image; and
a display screen being provided at said mirror case, said display screen being releasably mounted to said mirror case and including a viewing area, said display screen adapted to display said image of said display character at said viewing area, and said display screen being removable for at least one of replacement, repair, and upgrade.

29. The vehicle interior rearview mirror system according to Claim 28, further comprising at least one user-actuatable interface device at said display screen.

30. The vehicle interior rearview mirror system according to Claim 29, wherein said user-actuatable interface device comprises a user-actuatable button.

31. The interior rearview mirror assembly according to Claim 30, further comprising a light source, and said user-actuatable button being backlit by said light source.

32. The vehicle rearview mirror system according to Claim 28, further comprising a circuit board, said circuit board supporting said light emitting display element.

33. The vehicle rearview mirror system according to Claim 28, further comprising at least one light assembly projecting light through a lower portion of said mirror case.

34. The vehicle rearview mirror system according to Claim 33, wherein said lower portion includes an opening, said light assembly projecting light through said opening.

35. The vehicle rearview mirror system according to Claim 34, wherein said light assembly includes a cover and a light source, said cover positioned at said opening, and said light source projecting light through said cover.

36. The vehicle rearview mirror system according to Claim 35, wherein said light assembly includes a reflector, and at least one of said reflector and said cover being adapted to direct the light in a desired light pattern.

37. The vehicle rearview mirror system according to Claim 35, wherein said at least one light assembly comprises a pair of said light assembly, said covers of said light assemblies having substantially the same configuration whereby said covers are interchangeable.

38. The vehicle interior rearview mirror system according to Claim 28, wherein said display screen comprises a spectral filter.

39. The vehicle interior rearview mirror system according to Claim 28, wherein said display screen shifts said image by at least one of refraction and diffraction to align said image with a central portion of said viewing area.

40. The vehicle interior rearview mirror system according to Claim 39, wherein said display screen includes an outer surface and at least one inner surface angled with respect to said outer surface whereby said display screen shifts said image by refraction.

41. The vehicle interior rearview mirror system according to Claim 40, wherein said screen has a wedge-shaped cross-section.

42. The vehicle interior rearview mirror system according to Claim 40, wherein said display screen is formed from a material having an index of refractive in a range of 1.3 to 1.8.

43. The vehicle interior rearview mirror system according to Claim 42, wherein said material has an index of refraction in a range of 1.45 to 1.65.

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ab 44. The vehicle interior rearview mirror system according to Claim 39, wherein said display screen shifts said image by diffraction.

45. The vehicle interior rearview mirror system according to Claim 44, wherein said display screen includes an inner surface and an outer surface, said inner surface being etched with a diffractive surface whereby said diffractive surface shifts said image.

46. The vehicle interior rearview mirror system according to Claim 28, wherein said mirror case has a perimeter, said display screen is located at said perimeter of said mirror case.

47. The vehicle interior rearview mirror system according to Claim 46, wherein said display screen is located below said reflective element.

48. The vehicle interior rearview mirror system according to Claim 47, wherein said mirror case includes a chin area, said display screen forming a portion of said chin area.

49. The vehicle interior rearview mirror system according to Claim 28, wherein said reflective element comprises a prismatic reflective element.

50. A prismatic interior rearview mirror system for a vehicle, said mirror system comprising:

a mirror case having a reflective element;

a support adapted to mount to an interior portion of a vehicle, said mirror case

5 being pivotably mounted to said support; and

a toggle assembly adapted to pivot said mirror case and said reflective element about said support between a day position and a night position, said toggle assembly including a grasping member having a base and an outer surface, at least said base comprising a first material having a first hardness, at least a portion of said outer surface
10 comprising a second material having a second hardness wherein said first hardness is greater than said second hardness.

51. The prismatic interior rearview mirror system according to Claim 50, wherein said portion of said outer surface is molded onto said base.

52. The prismatic interior rearview mirror system according to Claim 50, wherein said outer surface comprises said second material.

53. The prismatic interior rearview mirror system according to Claim 50, wherein said second material has a hardness of less than about 70 Shore A Durometer.

54. The prismatic interior rearview mirror system according to Claim 53, wherein said first material has a hardness of greater than about 70 Shore A Durometer hardness.

55. The prismatic interior rearview mirror system according to Claim 50, further comprising a carrier, said carrier mounted to said mirror case and including at least one of a display screen and a user-actuatable interface device for use by an occupant of the vehicle.

56. The prismatic interior rearview mirror system according to Claim 55, wherein said carrier is mounted to said mirror case by a releasable mechanical connection.

57. The prismatic interior rearview mirror system according to Claim 55, wherein said mirror case includes a chin area, said carrier being mounted at said chin area.

58. The prismatic interior rearview mirror system according to Claim 57, wherein said carrier forms a portion of said chin area.

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